



Father of the Canadian Space Program

Can you imagine sending one of the very first satellites into space? How about writing a report that changed the entire direction of Canada's space efforts, or being involved in a telecommunications program that won an Emmy award? These are just a few of the accomplishments that earned John H. Chapman the nickname "Father of the Canadian Space Program."

Chapman, who was born in 1921, was a science graduate of McGill University in Montréal. In 1951, the London, Ontario, native became section leader of the Defence Research Board's unit at Shirley's Bay, Ontario. While there, he played a key role in several ground-breaking projects.



John Herbert Chapman

Lift Off!

Early in the history of space exploration, Canadian space scientists focussed on the study of Earth's upper atmosphere and ionosphere. They wanted to understand the behaviour of radio waves in these lofty regions, especially above Canada's North. As head of the government team researching this area, Chapman was a moving force in the *Alouette*/International Satellites for Ionospheric Studies (ISIS) program.

With the successful launch of *Alouette I* in 1962, Canada became the third nation to reach space, following the Soviet Union and the United States. Designed to last for one year, *Alouette I* functioned for ten. It has been hailed as one of the greatest achievements in Canadian engineering in the past century. The ISIS satellites lasted for 20 years, earning Canada an international reputation for excellence in satellite design and engineering.

During this time, Chapman brought Canadian industry into the space age. He argued that private companies, not just government laboratories, had

the "right stuff" to design and build space hardware. As a result, Canadian industry was given a steadily increasing role in the manufacture of *Alouette II* and the ISIS satellites.

Connecting Canada and the World

Chapman also influenced the very purpose for which Canada's satellites were built. *The Chapman Report*, issued in 1967, helped turn Canada's space program away from space science and toward telecommunications. Chapman believed that satellites could deliver signals to rural and remote regions of the country. This was achieved in 1972, when Canada placed the *Anik A1* satellite into stationary orbit above the equator and became the first country to have its own communications satellite system of this type.

Today, live news reports can be delivered from remote locations, due to technology that Chapman and his team helped pioneer in co-operation with NASA and the European Space Agency. Before the *Hermes* satellite was launched in 1976, videotapes of news events were flown to a production centre and distributed. This was a time-consuming process. With *Hermes* in place, a telecommunications dish on location could beam news up to the satellite and, from there, to anywhere in the world. *Hermes* was also revolutionary because it sent and received television signals on high frequencies that did not interfere with frequencies already in use. For this innovation, the *Hermes* satellite program won an Emmy in 1987.

At the time of his death in 1979, John Chapman was the Assistant Deputy Minister for Space in the Canadian Department of Communications. On October 2, 1996, in recognition of his distinguished career, the headquarters of the Canadian Space Agency was dedicated as the John H. Chapman Space Centre.

WEB LINK

www.mcgrawhill.ca/links/physics12

For more information about the Canadian Space Agency and the *Alouette*, *Hermes*, and ISIS space programs, visit the above Internet site and click on **Web Links**.